Blade headset Circuit Operation Principle Description

Blade is a single IC Bluetooth mono headset, the main IC is BC413159A11 made by CSR. BC413159A11 contains two functions: Baseband and RF band. Base band deals with Audio process, power management, MMI, memory, clock circuit, etc. RF band deals with radio signal process.

Headset circuit: fig1

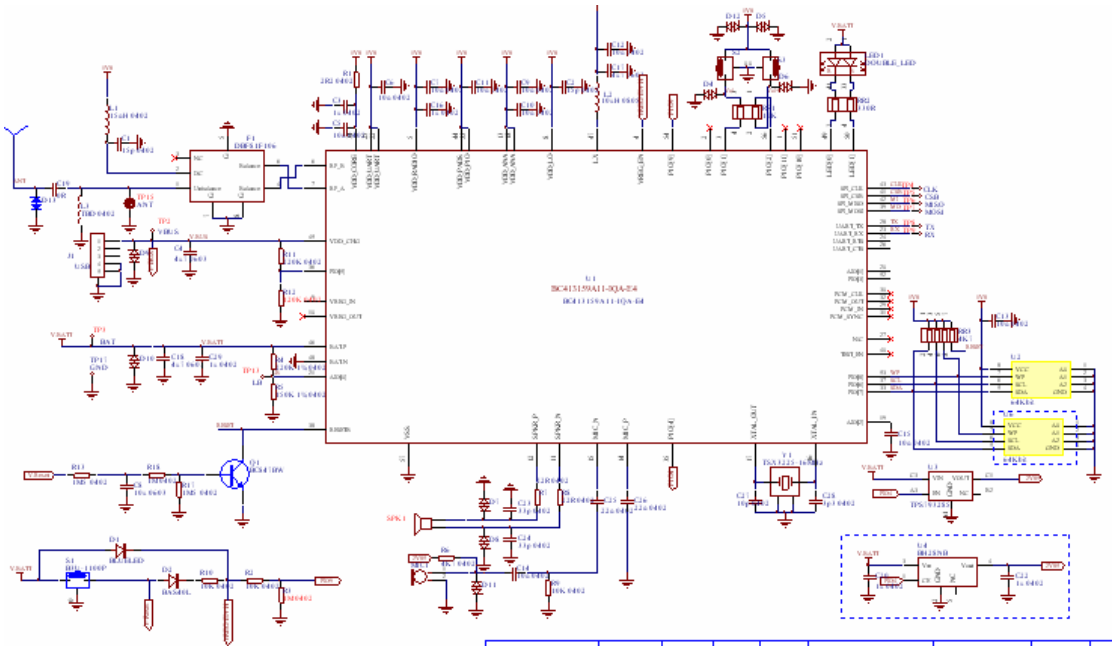

Fig 1 Whole sch

Base band circuit:

Audio part (fig2) contains RCV and MIC.

MIC receives audio signal from human, and converts to digital signal, and then to main IC. RCV outputs difference signal.

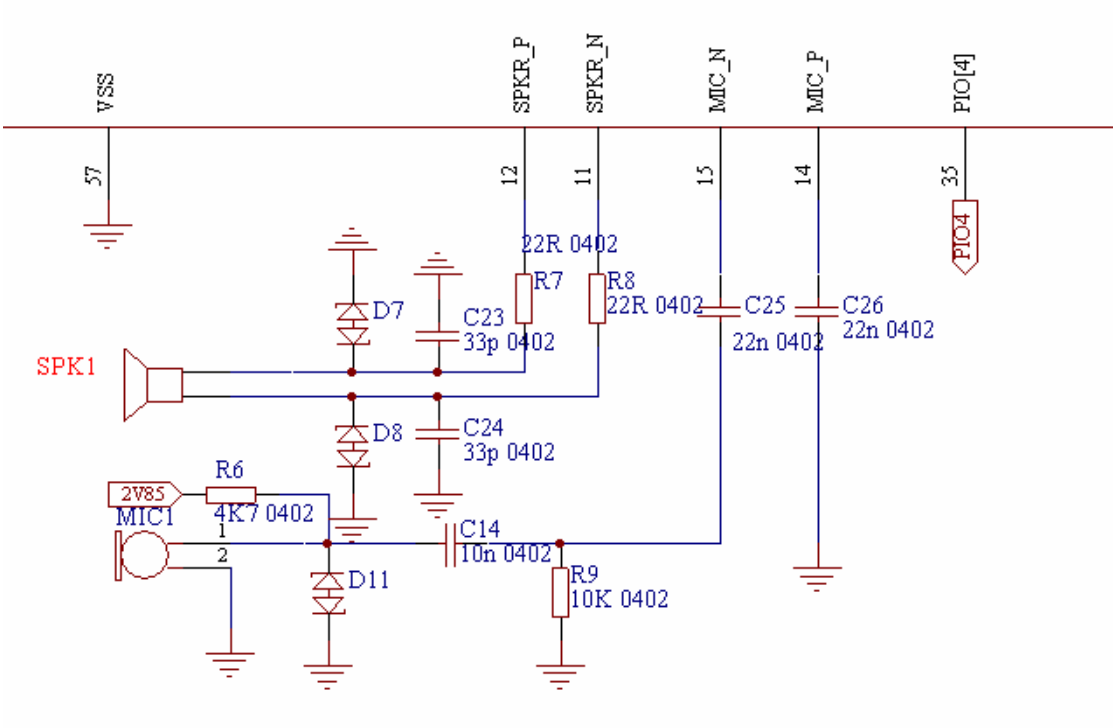

Fig2 Audio part

Power management: fig3

Internal DC-DC generates 1V8(out from LX) to power Bluetooth IC.

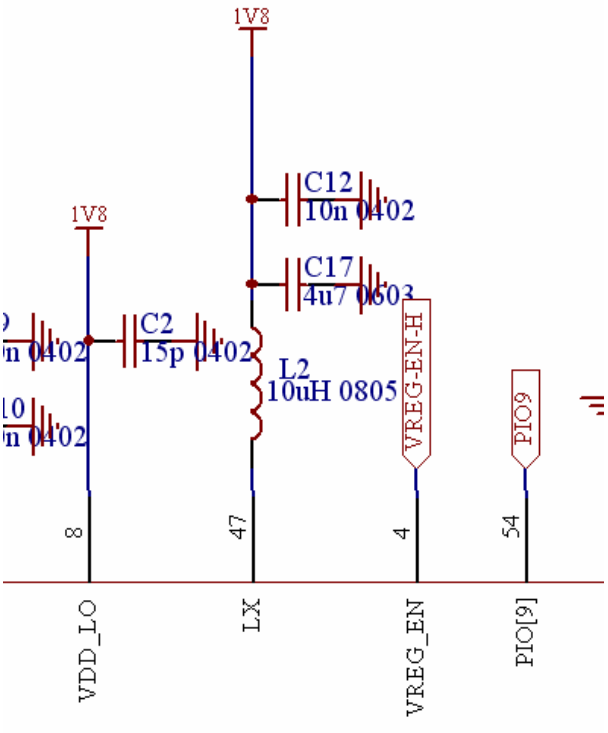

Fig 3 Power manage

MMI: fig 4

MMI contains two volume buttons, a main function button, blue and red LED to indicator working state.

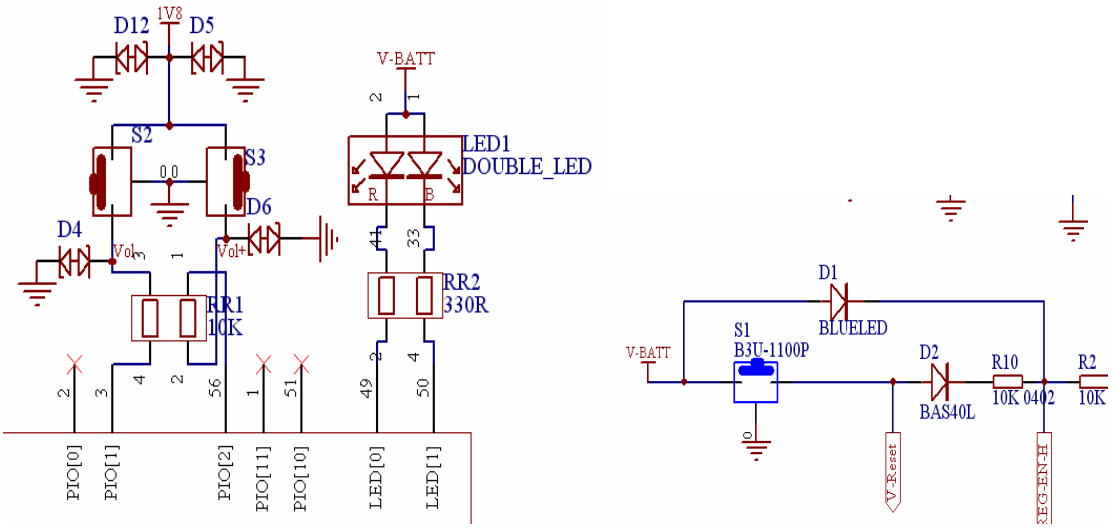

Fig 4 MMI

Memory: fig 5

Use 64Kbit EEPROM to store PSK file.

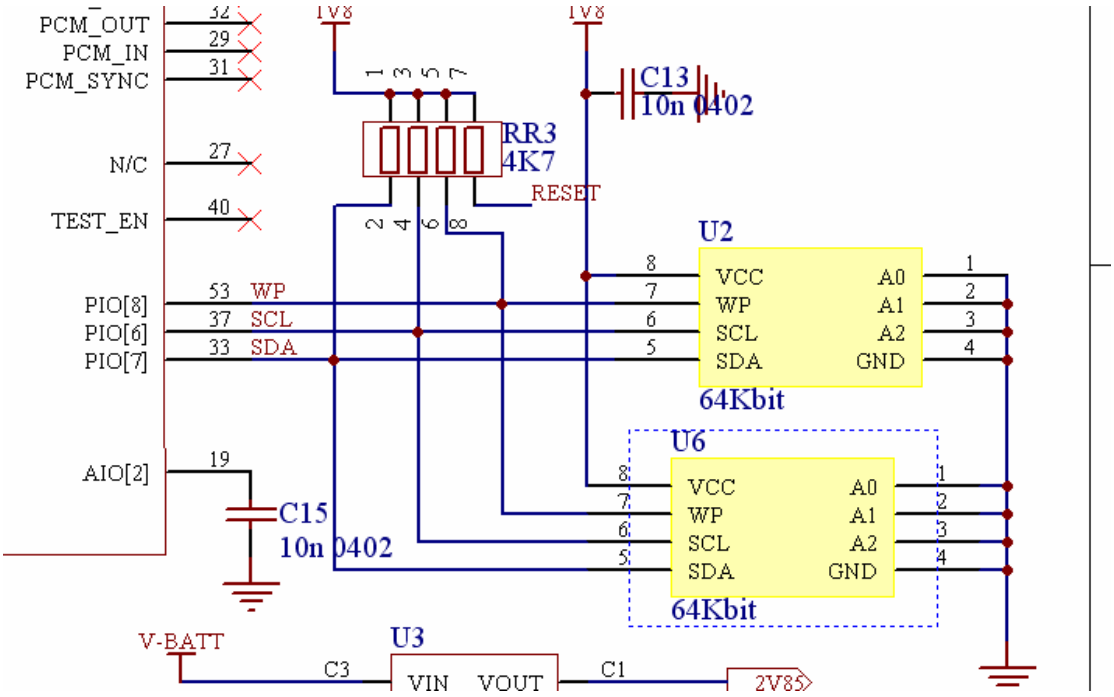

Fig 5 Memory

Clock circuit: Fig 6

16MHz crystal generates main clock.

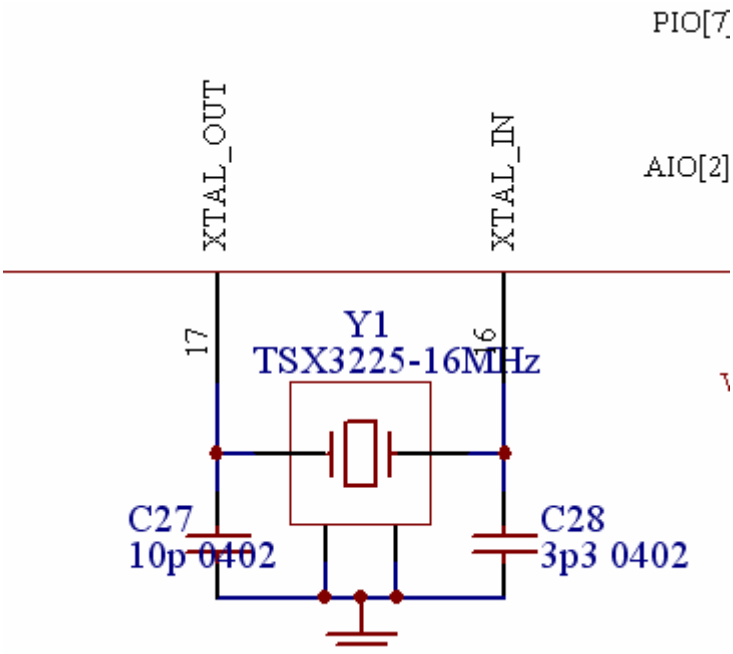

Fig 6 Clock circuit

RF band:

RF signal process: Fig 7

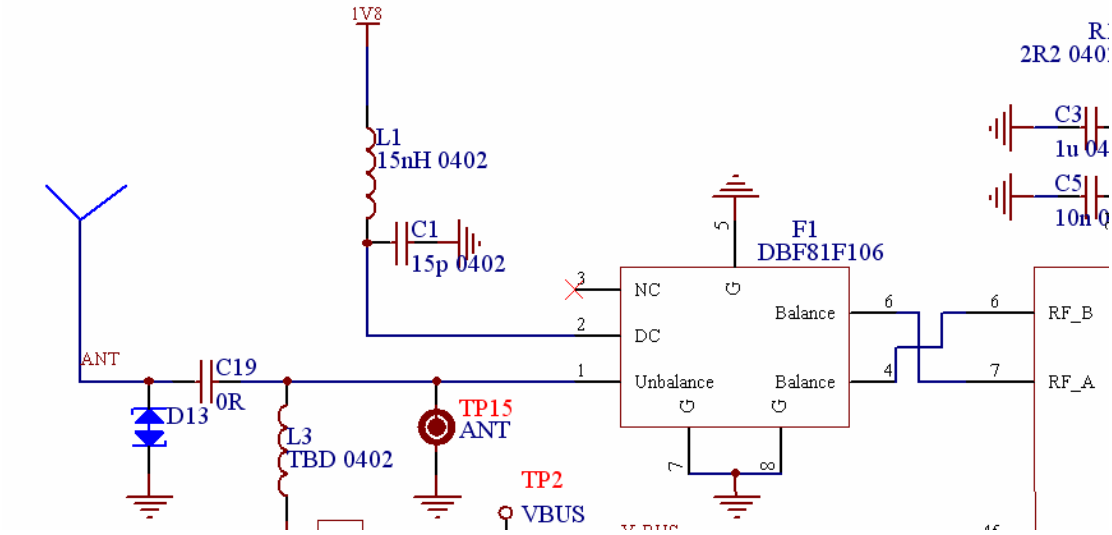

Fig 6 RF band

Main IC outputs RF signal. It passes through a balun filter. Antenna type is PIFA.